

Amendments to the Claims

This listing of claims replaces all prior versions, and listings, of claims in the application.

Listing of Claims

1. (Currently amended) A mandrel-locking unit for a rotary printing machine comprising
 - a mandrel-mounting element that forms a hollow body and accommodates in an enclosed form in an interior thereof a bearing for mounting a print roller mandrel having a mandrel-supporting surface and that is slideable between a mounting position in which the print roller mandrel is in mesh engagement with the bearing and a release position in which the print roller mandrel is out of mesh engagement with the bearing,
 - a pressurizing medium cylinder including a pressure chamber with a piston located therein for sliding the mandrel-mounting element between the mounting position and the release position, the piston delimiting the pressure chamber at a boundary surface and being connected to the mandrel-mounting element at a connecting point for a transfer of force required for sliding the mandrel-mounting element,
 - a distance between the boundary surface and the connecting point being smaller than a maximum stroke of the piston in the pressurizing medium cylinder,

an inner diameter of the pressurizing medium cylinder being larger than an outer diameter of the mandrel-mounting element, and

the pressurizing medium cylinder including a break-through that is open in the release position of the mandrel-mounting element such that the print roller mandrel and the mandrel-locking unit are separable from one another by a movement in relation to one another.

2. (Previously presented) The mandrel-locking unit pursuant to claim 1, wherein the distance between the boundary surface and the connecting point is smaller than three quarters of the maximum stroke of the piston in the pressurizing medium cylinder.

3. (Previously presented) The mandrel-locking unit pursuant to claim 1, wherein the distance between the boundary surface and the connecting point is smaller than half of the maximum stroke of the piston in the pressurizing medium cylinder.

4. (Previously presented) The mandrel-locking unit pursuant to claim 1, wherein parts of the mandrel-mounting element are displaceable in the pressurizing medium cylinder.

5. (Previously presented) The mandrel-locking unit pursuant to claim 1, wherein the piston is a disk without a piston rod.

6. (Previously presented) The mandrel-locking unit pursuant to claim 1, wherein the connecting point between the piston and the mandrel-mounting element has a threaded connection.

7. (Previously presented) The mandrel-locking unit pursuant to claim 1, wherein the mandrel-mounting element and the pressurizing medium cylinder are shaped as circular cylinders and have axes of symmetry that extend parallel to a distance between one another.

8. (Previously presented) A mandrel-locking unit for a rotary printing machine, comprising:

a mandrel-mounting element configured to accommodate in an interior thereof a bearing for mounting a print roller mandrel having a mandrel-supporting surface, the mandrel-mounting element being slideable between a mounting position in which the print roller mandrel is in contact with the bearing and a release position in which the print roller mandrel is out of contact with the bearing; and

a pressurizing medium cylinder including a pressure chamber with a piston located therein for sliding the mandrel-mounting

element between the mounting position and the release position, and a break-through that is open in the release position of the mandrel-mounting element such that the print roller mandrel and the mandrel-locking unit are separable from one another by a movement in relation to one another, an inner diameter of the pressurizing medium cylinder being larger than an outer diameter of the mandrel-mounting element,

the piston (i) having a boundary surface that delimits an end of the pressure chamber and (ii) being connected to the mandrel-mounting element at a connecting point for a transfer of force required to slide the mandrel-mounting element, and a distance between the boundary surface and the connecting point being less than a distance of a maximum piston stroke in the pressurizing medium cylinder.

9. (Previously presented) The mandrel-locking unit according to claim 8, wherein the distance between the boundary surface and the connecting point is less than three-quarters of the maximum piston stroke distance.

10. (Previously presented) The mandrel-locking unit according to claim 8, wherein the distance between the boundary surface and the connecting point is less than half of the maximum piston stroke distance.

11. (Currently amended) A mandrel-locking unit for a rotary printing machine comprising

a mandrel-mounting element that forms a hollow body and accommodates in an enclosed form in an interior thereof a bearing for mounting a print roller mandrel having a mandrel-supporting surface and that is slideable between a mounting position in which the print roller mandrel is in mesh engagement with the bearing and a release position in which the print roller mandrel is out of mesh engagement with the bearing,

a pressurizing medium cylinder including a guide area in which the mandrel-mounting element is slidably supported, and a pressure chamber with a piston located therein for sliding the mandrel-mounting element between the mounting position and the release position, the piston delimiting the pressure chamber at a boundary surface and being connected to the mandrel-mounting element at a connecting point for a transfer of force required for sliding the mandrel-mounting element,

a distance between the boundary surface and the connecting point being smaller than a maximum stroke of the piston in the pressurizing medium cylinder,

an inner diameter of the pressurizing medium cylinder being larger than an outer diameter of the mandrel-mounting element,

the pressurizing medium cylinder including a break-through that is open in the release position of the mandrel-mounting

element such that the print roller mandrel and the mandrel-locking unit are separable from one another by a movement in relation to one another, and

the pressure chamber and the guide area being separated from each other by the mandrel-mounting element and a sealing ring.

12. (Previously presented) The mandrel-locking unit according to claim 11, wherein the piston is configured as a disk.

13. (Previously presented) The mandrel-locking unit according to claim 11, wherein the distance between the boundary surface and the connecting point is essentially zero.

14. (Previously presented) The mandrel-locking unit according to claim 12, wherein the distance between the boundary surface and the connecting point equals a thickness of the disk.

15. (Previously presented) The mandrel-locking unit according to claim 11, wherein the sealing ring is disposed circumferentially around the mandrel-mounting element, and between the mandrel-mounting element and the guide area of the pressurizing medium cylinder.

16. (Currently amended) A mandrel-locking unit for a rotary printing machine comprising

a mandrel-mounting element that forms a hollow body and accommodates in an enclosed form in an interior thereof a bearing for mounting a print roller mandrel having a mandrel-supporting surface and that is slideable between a mounting position in which the print roller mandrel is in mesh engagement with the bearing and a release position in which the print roller mandrel is out of mesh engagement with the bearing,

a pressurizing medium cylinder including a pressure chamber with a piston located therein for sliding the mandrel-mounting element between the mounting position and the release position, an inner diameter of the pressurizing medium cylinder being larger than an outer diameter of the mandrel-mounting element,

the piston delimiting the pressure chamber at a boundary surface and being connected to the mandrel-mounting element for a transfer of force required for sliding the mandrel-mounting element, a surface of the piston opposite the boundary surface being directly connected to an end surface of the mandrel-mounting element, and

the pressurizing medium cylinder including a break-through that is open in the release position of the mandrel-mounting element such that the print roller mandrel and the mandrel-locking unit are separable from one another by a movement in relation to one another.

17. (Currently amended) A mandrel-locking unit for a rotary printing machine comprising

a mandrel-mounting element that forms a hollow body and accommodates in an enclosed form in an interior thereof a bearing for mounting a print roller mandrel having a mandrel-supporting surface and that is slideable between a mounting position in which the print roller mandrel is in mesh engagement with the bearing and a release position in which the print roller mandrel is out of mesh engagement with the bearing,

a pressurizing medium cylinder including a pressure chamber with a disk-shaped piston located therein for sliding the mandrel-mounting element between the mounting position and the release position, an inner diameter of the pressurizing medium cylinder being larger than an outer diameter of the mandrel-mounting element,

the piston delimiting the pressure chamber at a boundary surface and being connected to the mandrel-mounting element for a transfer of force required for sliding the mandrel-mounting element, a surface of the piston opposite the boundary surface being directly connected to an end surface of the mandrel-mounting element, the transfer of force being provided by a compressed fluid that acts on the connected piston and mandrel-mounting element, and

the pressurizing medium cylinder including a break-through that is open in the release position of the mandrel-mounting element such that the print roller mandrel and the mandrel-locking unit are separable from one another by a movement in relation to one another.